

FIG.1

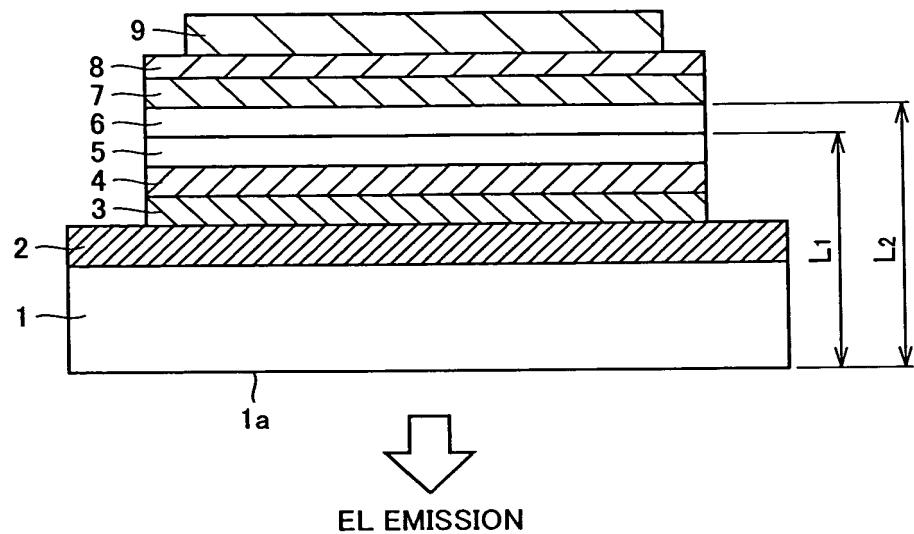


FIG.2

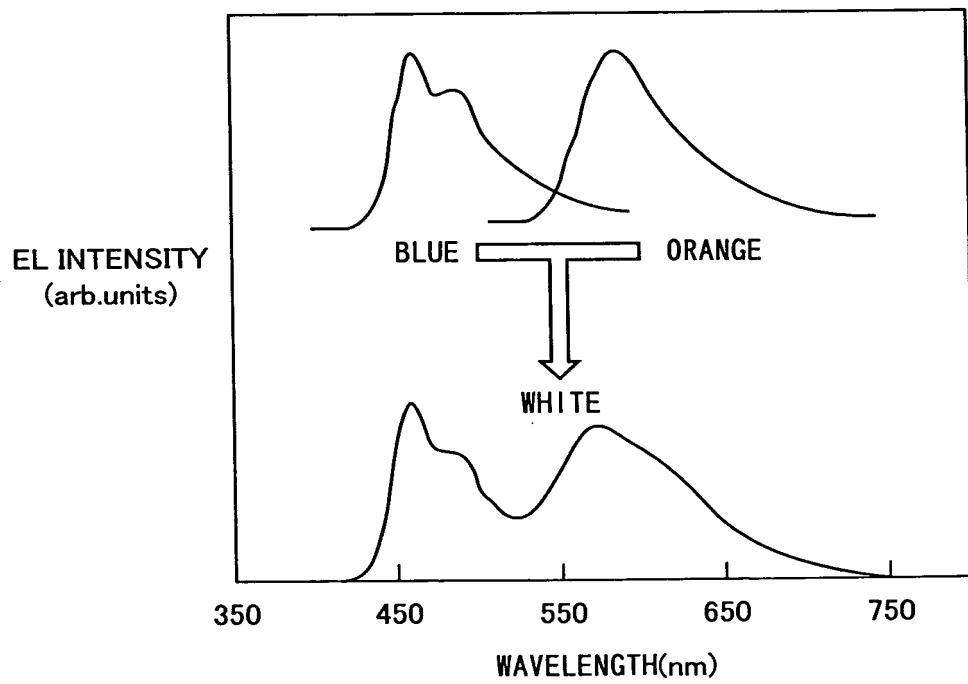


FIG.3

GLASS SUB-STRATE	TRNAs-PARENT ANODE	HOLE INJECTING LAYER	HOLE TRANSPORT LAYER	ORANGE EMISSION LAYER	BLUE EMISSION LAYER	ELECTRON TRANSPORT LAYER	ELECTRON INJECTING LAYER/CATHODE
Glass (mm)	ITO (nm)	CuPc (nm)	Cfx (nm)	NPB (nm)	NPB (nm)	TBzR (%)	TBzN (nm)
COMPARATIVE EXAMPLE 2	0.7	85	10	2	70	10	3%
COMPARATIVE EXAMPLE 1	0.7	85	10	2	70	10	3%
FIRST EMBODIMENT	0.7	85	10	2	65	10	3%

FIG.4

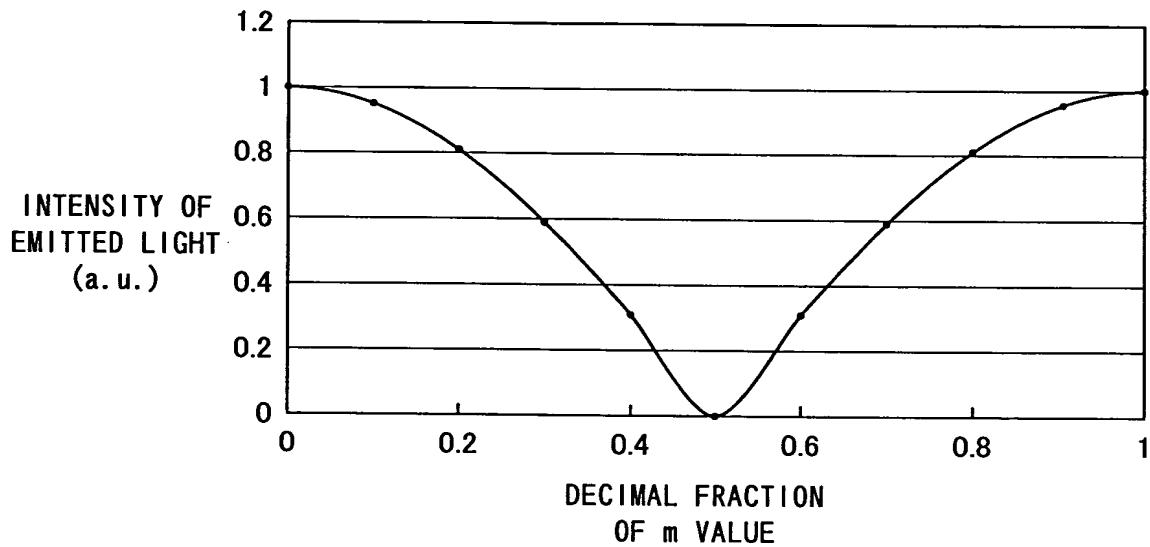
	FILM THICKNESS (nm)	Glass	$\pi_0$	$\text{OPPOCF}_x$	NPB	NPB+DBZR	TBAND+TBP	$\Delta\phi_3$	TOTAL OPTICAL FILM THICKNESS	DECIMAL FRACTION OF $n$ VALUE	$\lambda$ (nm)
COMPARATIVE EXAMPLE 2	FILM THICKNESS OPTICAL DISTANCE	7000000	85	12	70	10	60	10	10850310	0.528	570
	OF RED	10850000	153	13.2	126	18					
	OF BLUE	10850000	170	19.2	126	18	108		10850441	0.663	460
	OF GREEN	10850000	170	18	126	18	108		10850440	0.490	510
COMPARATIVE EXAMPLE 1	FILM THICKNESS OPTICAL DISTANCE	7000000	85	12	70	10	20	10	10850310	0.528	570
	OF RED	10850000	153	13.2	126	18					
	OF BLUE	10850000	170	19.2	126	18	36		10850369	0.037	460
	OF GREEN	10850000	170	18	126	18	36		10850368	0.925	510
FIRST EMBODIMENT	FILM THICKNESS OPTICAL DISTANCE	700000	85	12	65	10	35	10	10850312	0.149	570
	OF RED	1085000	153	13.2	117	18					
	OF BLUE	1085000	170	19.2	117	18	63		10853872	0.150	460
	OF GREEN	1085000	170	18	117	18	63		10853886	0.831	510

**FIG.5**

INDEX OF REFRACTION OF EACH LAYER AT EACH  
WAVELENGTH OF RED, GREEN AND BLUE

MEASURED WAVELENGTH (nm)	Glass	ITO	CuPC+CFx	NPB	NPB+DBzR	TBADN+TBP
570(RED)	1.55	1.8	1.1	1.8	1.8	1.8
460(BLUE)	1.55	2	1.6	1.8	1.8	1.8
510(GREEN)	1.55	2	1.5	1.8	1.8	1.8

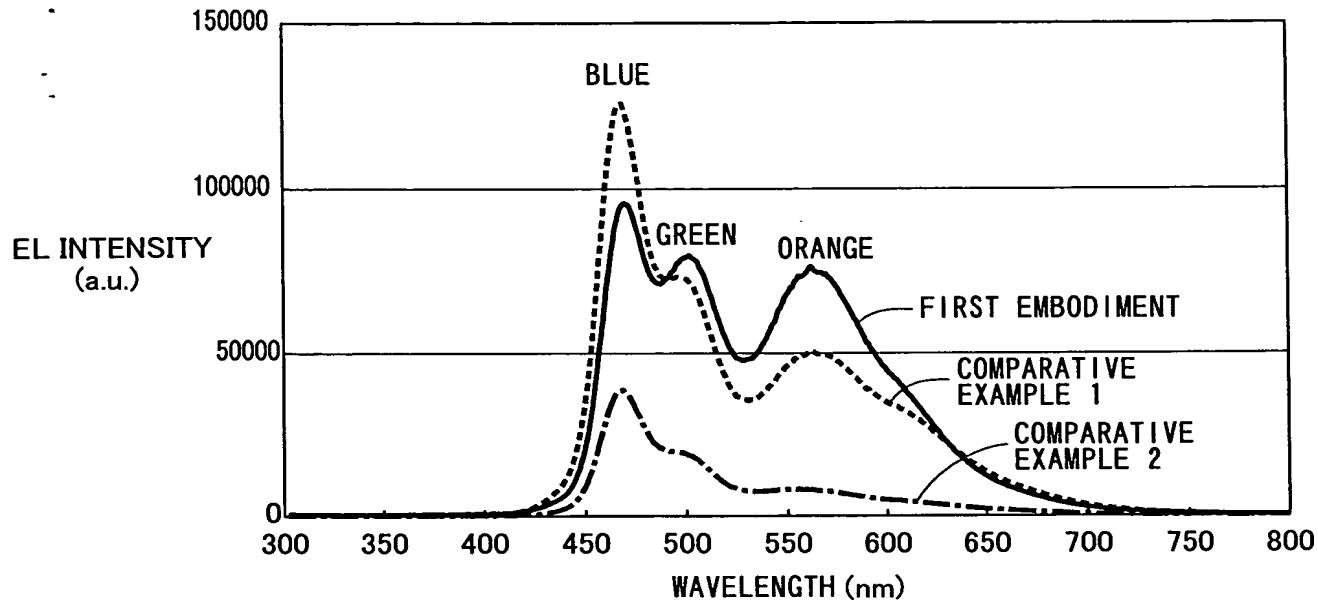
**FIG.6**



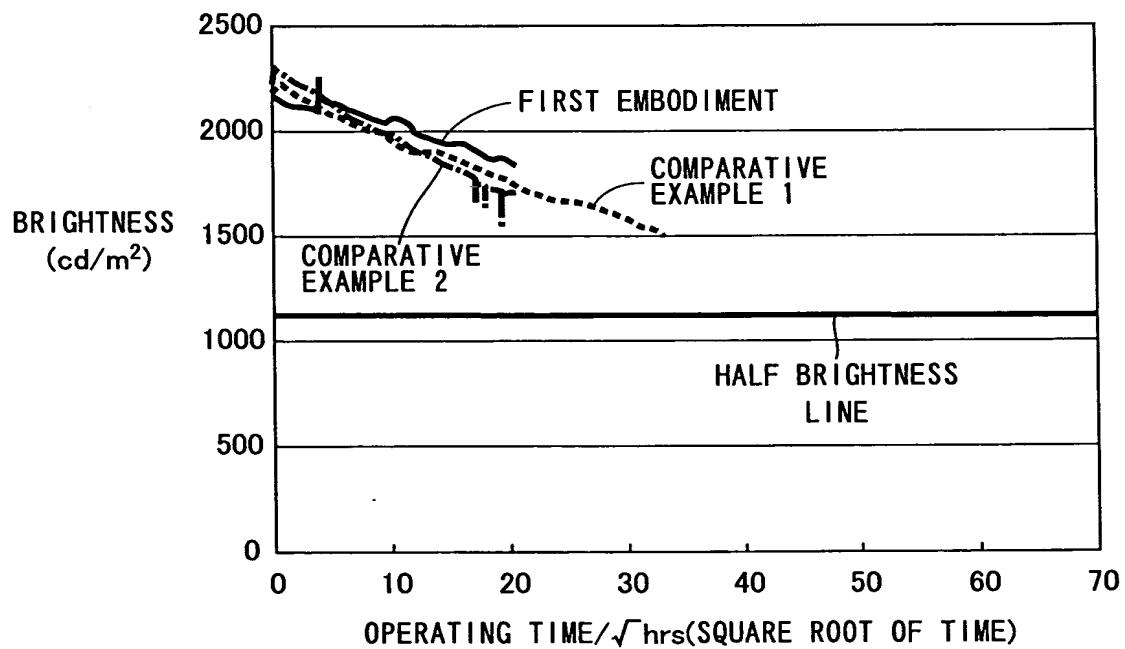
**FIG.7**

	OPERATING VOLTAGE (V)	CHROMATICITY		LUMINOUS EFFICIENCY (cd/A)
		CIE X	CIE Y	
COMPARATIVE EXAMPLE 2	6.78	0.25	0.29	8.62
COMPARATIVE EXAMPLE 1	6.58	0.27	0.32	11.16
FIRST EMBODIMENT	6.35	0.29	0.39	13.31

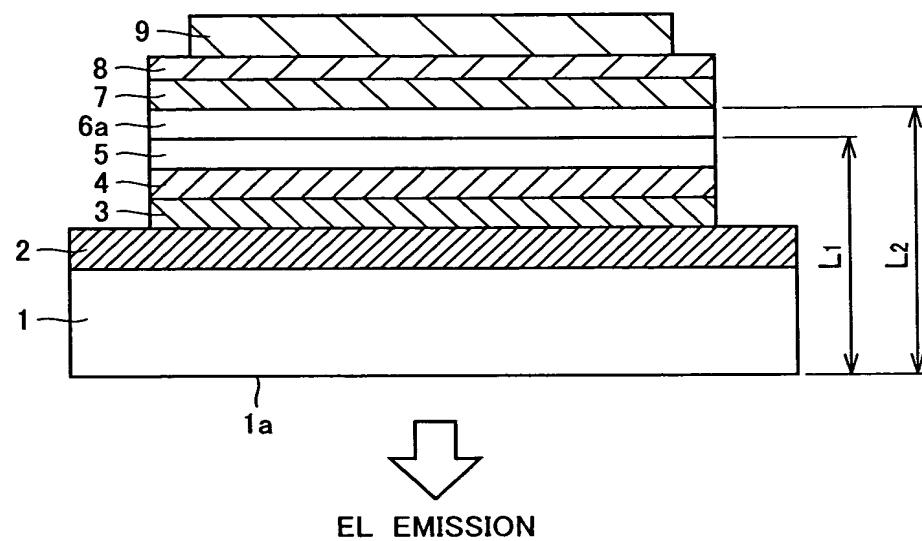
**FIG.8**



**FIG.9**



**FIG.10**



**FIG.11**

	GLASS SUB- STRATE ANODE	TRAN- SPARENT PARENT LAYER	HOLE INJECTING LAYER	ORANGE TRANSPORT LAYER	BLUE EMISSION LAYER	ELECTRON TRANSPORT LAYER	ELECTRON INJECTING LAYER/CATHODE				
	Glass (mm)	ITO (nm)	CuPC (nm)	CFx (nm)	NPB (nm)	DBzR (%)	TBdN (nm)	TBP (%)	Alq3 (nm)	LiF/Al (nm/nm)	
COMPARATIVE EXAMPLE 1	0.7	85	10	2	50	10	3%	95	5%	10	1/200
COMPARATIVE EXAMPLE 2	0.7	85	10	2	40	10	3%	75	5%	10	1/200
SECOND EMBODIMENT	0.7	85	10	2	60	10	3%	75	5%	10	1/200

**FIG. 12**

	FILM THICKNESS (nm)	Glass	ITO	CuPC-CFx	NPB	NPBbDBzR	TBAdN+TBP	Alq3	TOTAL OPTICAL FILM THICKNESS OF m VALUE	DECIMAL FRACTION OF m VALUE	$\lambda$ (nm)
COMPARATIVE EXAMPLE 1	FILM THICKNESS (nm) OPTICAL DISTANCE OF RED	700000	85	12	50	10	95	10	1085274.2	0.959	570
	OPTICAL DISTANCE OF BLUE	1085000	153	132	90	18			1085387.2	0.150	460
	OPTICAL DISTANCE OF GREEN	1085000	170	192	90	18	171		1085386	0.831	510
	FILM THICKNESS (nm) OPTICAL DISTANCE OF RED	700000	85	12	40	10	75	10	1085256.2	0.833	570
COMPARATIVE EXAMPLE 2	OPTICAL DISTANCE OF BLUE	1085000	170	192	72	18			1085333.2	0.680	460
	OPTICAL DISTANCE OF GREEN	1085000	170	18	72	18	135		1085332	0.408	510
	FILM THICKNESS (nm) OPTICAL DISTANCE OF RED	700000	85	12	60	10	75	10	1085292.2	0.086	570
	OPTICAL DISTANCE OF BLUE	1085000	170	192	108	18			1085369.2	0.993	460
SECOND EMBODIMENT	OPTICAL DISTANCE OF GREEN	1085000	170	18	108	18	135		1085368	0.690	510

**FIG.13**

INDEX OF REFRACTION OF EACH LAYER AT EACH  
WAVELENGTH OF RED, GREEN AND BLUE

MEASURED WAVELENGTH (nm)	Glass	ITO	CuPC+CFx	NPB	NPB+DBzR	TBADN+TBP
570(RED)	1.55	1.8	1.1	1.8	1.8	1.8
460(BLUE)	1.55	2	1.6	1.8	1.8	1.8
510(GREEN)	1.55	2	1.5	1.8	1.8	1.8

**FIG.14**

	OPERATING VOLTAGE (V)	CHROMATICITY		LUMINOUS EFFICIENCY
		CIE X	CIE Y	(cd/A)
COMPARATIVE EXAMPLE 1	5.37	0.36	0.40	8.14
COMPARATIVE EXAMPLE 2	5.15	0.36	0.42	7.42
SECOND EMBODIMENT	6.71	0.35	0.39	10.02

**FIG.15**

